

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re U.S. Patent Application of:

ROBERT R. BRUBAKER

VLADIMIR L. MOTIN

GEORGE B. SMIRNOV

Serial No.: 08/302,423

Group Art Unit: 1806

Filed: September 8, 1994

For: A RECOMBINANT PLASMID AND A METHOD  
OF CONTROLLING THE EFFECTS  
OF *YERSINIA PESTIS*

Attorney Ref: MSUN 0105 PUS

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, DC 20231 on

February 14, 1995  
Date

William J. Schramm  
Name of applicant, assignee, or  
Registered Representative

Signature

INFORMATION DISCLOSURE STATEMENT

Commissioner of Patents  
and Trademarks  
Washington, D.C. 20231

Dear Sir:

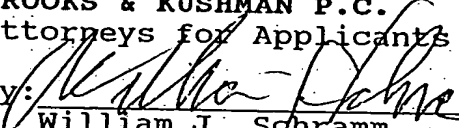
Applicants herewith submit patents and publications of which they are aware and believe may be material to the examination of this application and in respect of which there may be a duty to disclose in accordance with 37 C.F.R. § 1.56.

While this Information Disclosure Statement may be "material" pursuant to the above, it is not intended to constitute an admission that any patent, publication and/or other information referred to herein is "prior art" for this invention unless specifically designated as such.

Applicants have identified references in the attached Form PTO-1449 and have provided copies as required by 37 C.F.R. § 1.98(a)(2).

Respectfully submitted,

BROOKS & KUSHMAN P.C.  
Attorneys for Applicants

By:   
William J. Schramm

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/llr

<b>FORM PTO-1449 (MODIFIED)</b>  <b>LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT</b>  (Use several sheets if necessary)	<b>ATTY. DOCKET NO.</b> MSUN 0105 PUS	<b>SERIAL NO.</b> 08/302,423
	<b>APPLICANT</b> Robert R. Brubaker, et al	
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REFERENCE DESIGNATION										U.S. PATENT DOCUMENTS			
EXAMINER INITIAL		DOCUMENT NUMBER							DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	3	1	3	7	6	2	9	06-16-64	Cocking, et al			
	AB	4	4	5	5	1	4	2	06-19-84	Martins, et al			
	AC	5	2	1	3	7	9	6	05-25-93	Garcea, et al			
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OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)													
	AR	Bergman, T., et al, "Analysis of the V antigen 1crGVH-yopBD operon of Yersinia Pseudotuberculosis: Evidence of a regulatory role of LcrH and LcrV". J. BACTERIOL. 173:1607-1616, 1991											
	AS	Bolin, I., and H. Wolf-Watz. "The plasmid-encoded Yop2b protein of Yersinia pseudotuberculosis is a virulence determinat regulated by calcium and temperature at transcriptional level". MOL. MICROBIOL. 2:237-245, 1988											
	AT	Brubaker, R.R. "The V antigen of yersiniae - an overview". CONTRIB. MICROBIOL. IMMUNOL., 12: 127-133, 1991											

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## OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR	Brubaker, R.R. 1991. "Factors promoting acute and chronic diseases caused by yersiniae". CLIN. MICROBIAL: Rev. 4:309-324.
AS	Brubaker, R.R., A.K. Sample, D.-Z. Yu, R.J. Zahorchak, P.C. Hu, and J.M. Fowler. 1987. "Proteolysis of V antigen from <u>Yersinia pestis</u> ". MICROB. PATHOG. 2:49-62.
AT	Burrows, T.W. 1956. "An antigen determining virulence in <u>Pasteurella pestis</u> ." Nature (London) 177:426-427.

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OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)														
	AR	<input checked="" type="checkbox"/>	Burrows, T.W., et al. 1958. "The Basis of virulence in Pasteurella pestis: an antigen determining virulence". BRIT. J. EXP. PATHOL. 37:481-493											
	AS	<input checked="" type="checkbox"/>	Burrows, T.W., et al, 1960. "Y and W antigens in strains of Pasteurella pseudotuberculosis". BR. J. EXP. PATHOL. 41:38-44.											
	AT	<input checked="" type="checkbox"/>	Carter, P.B., et al. 1980. "Plague virulence antigens from Yersinia enterocolitica" INFECT. IMMUN. 28:638-640											

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	AR	Ferber, D.M., et al. 1981. "Plasmids in Yersinia pestis". INFECT. IMMUN. 31:839-841
	AS	Fetherston, J.D., et al. 1992. "Loss of the pigmentation phenotype in Yersinia pestis is due to the spontaneous deletion of 102kb, etc." MOL. MICROBIOL 6:2693-2704
	AS	Charnetzky, W.T., et al. 1982. "RNA synthesis in Yersinia pestis during growth restriction in calcium deficient medium." J. BACTERIOL. 149:1089-1095.

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	AR	Gandecha, A.R., et al. 1992. "Production and secretion of a bifunctional staphylococcal protein A: antiphytochrome single-chain Fv fusion protein in Escherichia coli" GENE 122:361-365.									
	AS	Grodberg, J., and J.J. Dunn 1988 "ompI encodes the Escherichia coli outer membrane protease that cleaves T7 RNA polymerase during purification". J. BACTERIOL. 170:1245-1253									
	AT	Hakansson, S., et al 1993 "YopB and YopD constitute a novel class of Yersinia Yop proteins." INFECT. IMMUN. 61:71-80.									

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	AR	Leung, K.Y., and S.C. Straley 1989. "The yopM gene of Yersinia pestis encodes a released protein having homology with the human platelet surface protein GPIb". J. BACTERIOL. 171:4623-4632.							
	AS	Lawton, W.D., et al 1963. "Biosynthesis and purification of V and W antigen in Pasteurella pestis." J. IMMUNOL. 91:179-184.							
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	AR	Lucier, T.A., and R.R. Brubaker. 1992. "Determination of genome size, macrorestriction pattern polymorphism, and nonpigmentation-specific deletion in Yersinia pestis by pulsed-field gel electrophoresis." J. BACTERIOL. 174:2078-2086.							
	AS	Lowenadler, B., et al 1987. "A gene fusion system for generating antibodies against short peptides." GENE 58:87-97.							
	AT	Mehigh, R.J. and R.R. Brubaker. 1993. "Major stable peptides of Yersinia pestis synthesized during the low-calcium response". INFECT. IMMUN. 61:13-22							

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	AR		<input checked="" type="checkbox"/> Michiels, T., and G. Cornelis. 1988. "Nucleotide sequence and transcription analysis of yop51 from Yersinia enterocolitica W22703" MICROB. PATHOG. 5:449-459.										
	AS		<input checked="" type="checkbox"/> Motin, V.L., et al. 1991. "The difference in the 1crV-sequences between Y. pestis and Y. pseudotuberculosis, etc." MICROB. PATHOG. 12:165-175.										
	AT		<input checked="" type="checkbox"/> Mulder, B., et al. 1989. "Identification of additional virulence determinants of the pYV plasmid of Yersinia enterocolitica W227" INFECT. IMMUN. 57:2534-2541										

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AR		Nakajima, R., and R. R. Brubaker. 1993. "Association between virulence of Yersinia pestis and suppression of gamma interferon and tumor necrosis factor alpha." INFECT. IMMUN. 61:23-31.
AS		Nilsson, B., L. Abrahamsen, and M. Uhlen. 1985. "Immobilization and purification of enzymes with staphylococcal protein A gene fusion vectors." EMBO J. 4:1075-1080
AT		Price, S.B., et al. "The V antigen is a regulator protein necessary for the Ca <sup>2+</sup> -dependent growth, etc." J. BACTERIOL. 173:2649.

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AR	<input checked="" type="checkbox"/>	Reisner, B.S. and S.C. Straley. 1992. "Yersinia pestis YopM: Thrombin binding and overexpression." INFECT. IMMUN. 60:5242-5252.
AS	<input checked="" type="checkbox"/>	Price, S.B., et al. 1989. "Molecular analysis of 1crGVH, the V operon of Yersinia pestis." J. BACTERIOL. 171:5646-5653.
AT	<input checked="" type="checkbox"/>	Rosqvist, R., et al. 1990. "The Cytotoxic Yop E of Yersinia obstructs the primary host defense." MOL. MICROBIOL. 4:657.

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	AR	Rosqvist, R., et al. 1991. "Intracellular targeting of the Yersinia YopE cytotoxin in mammalian cells induces actin microfilament disruption." INFECT. IMMUN. 59:4562-4569.											
	AS	Sato, K., R. Nakamura, et al. 1991. "Preparation of monoclonal antibody to V Antigen from Yersinia pestis." CONTRIB. MICROBIOL. IMMUNOL. 12:225-229											
	AT	Sample, A.K., et al. 1987. "Posttranslational regulation of Lcr plasmid-mediated peptides in pesticinogenic Yersinia pestis." MICROB. PATHOG. 3:239-248											

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	AR	Straley, S.C., and W.S. Bommer. 1986. "Virulence genes regulated at the transcriptional level by Ca <sup>2+</sup> in Yersinia pestis include structural genes for outer membrane proteins." INFECT. IMMUN. 51:445-454.									
	AS	Sodeinde, O.A., et al. 1988. "Plasminogen activator/coagulase gene of Yersinia pestis is responsible for degradation of plasmid-encoded outer membrane proteins." INFECT. IMMUN. 56:2749-2752.									
	AT	Une, T., and R.R. Brubaker. 1984. "Roles of V antigen in promoting virulence and immunity in yersiniae." J. IMMUNOL. 133:2226-2230.									

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	AS	Uhlen, M. B. Guss, et al. 1984. "Complete sequence of the staphylococcal gene encoding protein A." J. BIOL. CHEM. 259:1695-1702.
	AT	Une, T., and R.R. Brubaker. 1984. "In vivo comparison of avirulent Vwa' and Pgm or Pst' phenotypes of yersiniae." INFECT. IMMUN. 43:895-900.

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In r application of : Rob rt R. Brubak r t al.

S rial No. : 08/302,423

Group Art Unit : 1806

Filed: : September 8, 1994

For: : RECOMBINANT PLASMID AND A METHOD OF  
CONTROLLING THE EFFECTS OF YERSINIA  
PESTIS

I hereby certify that this correspondence is being deposited with the  
United States Postal Service as first class mail in an envelope addressed  
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5-11-95

Date

WILLIAM J. SCHRAMM

Name

Matthew J. Schramm

Signature

**SUPPLEMENTAL**  
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Sir:

Applicant herewith submits patents and/or publications of which  
he is aware and believes may be material to the examination of this  
application and in respect of which there may be a duty to disclose in  
accordance with 37 C.F.R. § 1.56.

While this Information Disclosure Statement may be "material"  
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any patent, publication and/or other information referred to herein is  
"prior art" for this invention unless specifically designated as such.

Applicant has identified references in the attached Form PTO-  
1449 and has provided copies as required by 37 C.F.R. § 1.98(a)(2).

Respectfully submitted,

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Form PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. P-302 (MSU)	SERIAL NO. 08/302,423
SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT		APPLICANT: Robert R. Brubaker et al.	
		FILING DATE: 9/8/94	GROUP:
OTHER DOCUMENTS (Continued)			
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